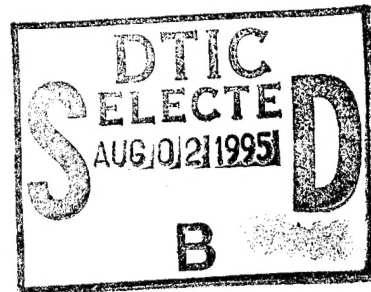


NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



THESIS

CHALLENGES FACING NAVY CONTRACTING
AGENCIES ATTEMPTING TO IMPLEMENT AN
AFFIRMATIVE PROCUREMENT PROGRAM
PURSUANT WITH EXECUTIVE ORDER 12873

by

Curtis L. Fields

December, 1994

Principal Advisor:

Walter E. Owen

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PROGRAM PURSUANT WITH EXECUTIVE ORDER 12873

by

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Lieutenant Commander, United States Navy
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Submitted in partial fulfillment
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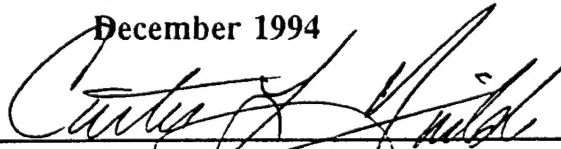
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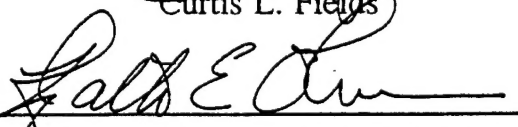
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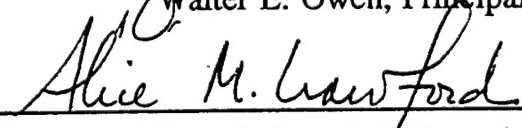
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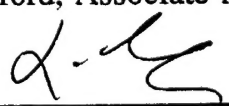
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ABSTRACT

In 1976, section 6002 of the Resource Conservation and Recovery Act (RCRA) required all Federal agencies to implement an Affirmative Procurement Program (APP). Since then, all Federal agencies have not fully complied with RCRA and the Federal Government enacted Executive Order 12873 to strengthen its requirements. The focus of this thesis is on the challenges facing Navy field contracting agencies attempting to implement an APP. The Agency Environmental Executive (AEE), who is tasked with the responsibility of implementation within the agency, is faced with five major challenges. They are to get all Navy contracting agencies to: (1) procure environmentally preferable products and services, (i.e., Green Acquisition); (2) incorporate environmental life-cycle cost into the procurement process; (3) get contractors to comply with the minimum content standards required for recovered materials; (4) reduce the burden of complying with the reporting requirements of the APP; and (5) avoid inconsistent application of minimum content standards for recycled products. This thesis draws conclusions based on the responses from a questionnaire and makes recommendations on how Navy contracting agencies can improve their implementation of the APP.

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I. INTRODUCTION

A. OPENING REMARKS

We live in an age where preservation of the environment is becoming more important in our daily lives. The Federal Government has increased its role in protecting the environment by revising the way it procures recycled products. We can no longer afford to waste our natural resources. We must develop ways to reclaim our natural resources and manage solid waste disposal.

On October 20, 1993, President Clinton signed Executive Order (EO) 12873, "**Federal Acquisition, Recycling, and Waste Prevention.**" This Executive Order expands the Federal Government's role in purchasing recycled and environmentally preferable¹ products. It also incorporates solid waste prevention and recycling in the daily operations of Federal agencies.

One of the most significant aspects of the Executive Order is its requirement to implement an Affirmative Procurement Program (APP). This program is designed to ensure that items containing recovered materials are purchased to the greatest extent possible. Recovered material is waste material and byproducts which have been recovered or diverted from solid waste. This does not include those materials and byproducts generated from and commonly reused within an original manufacturing process [Ref. 1]. It should be noted that products reused within an original manufacturing process are recycled materials.

Implementing an APP means that all purchases made pursuant to this Executive Order shall endeavor to maximize

¹. Environmentally preferable means products or services that have a reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.

environmental benefits consistent with price, performance, and availability considerations. It also means that bid solicitation guidelines can be adjusted as necessary in order to accomplish this goal. [Ref. 1: sec. 402]

B. AREA OF RESEARCH

The area of research in this thesis is focused on the Affirmative Procurement Program required by EO-12873. The purpose of the Executive Order is:

1. To use natural resources efficiently by maximizing recycling and preventing waste.
2. To heighten the environmental consciousness.
3. To create cost effective waste prevention and recycling activities which will serve as models for both private and public institutions.
4. To spur private development of new technologies and use of such products by creating a market for environmentally preferable products and services.
[Ref. 1]

C. RESEARCH QUESTIONS

This thesis reviews EO-12873 and investigates the Affirmative Procurement Program (APP) requirements it contains. It specifically focuses on the challenges that the Navy is having with implementing an APP. Therefore, the following research questions will focus on these challenges.

1. Primary question

What are the challenges facing Navy contracting agencies in their attempt to implement the Affirmative Procurement Program called for in Executive Order 12873?

2. Subsidiary questions

To answer the primary question, it is necessary to answer the following subsidiary questions as well; (a) What are unique requirements for establishing an Affirmative

Procurement Program and what actions are being taken to implement them?; (b) What are some of the major problems facing Agency Environmental Executives in their efforts to implement an Affirmative Procurement Program?; and (c) What are the responsibilities of the Federal Environmental Executive and the Agency Environmental Executive?

D. DISCUSSION

In 1976, the Resource Conservation and Recovery Act (RCRA) was enacted. It requires Federal agencies to give preference to purchase products containing recovered material. RCRA states that:

Agencies shall procure such items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, considering such guidelines [Ref. 2: p. 193].

RCRA also requires the Environmental Protection Agency (EPA) to designate products made of recovered materials so that Federal agencies can increase their purchase of these items. Over the span of the last 14 to 18 years, neither the EPA nor Federal agencies did very much in the way of complying with the requirements of RCRA.

During this same period of time, public interest in the environment began to peak. The Federal Government was being pressured by the public to enact stronger environmental legislation. The Federal Government responded with Federal Environmental Legislation such as:

- National Environmental Policy Act (NEPA)
- Ocean Dumping Act (ODA)
- Toxic Substances Control Act (TSCA)

- Resource Conservation and Recovery Act of 1976 (RCRA)
- Environmental Research, Development, and Demonstration Authorization Act (ERDDA)
- Clean Water Act of 1977 (CWA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Energy Planning and Community Right-to-Know Act (EPCRA)
- Clean Air Act Amendments of 1990
- Pollution Prevention Act of 1990
- Energy Policy Act of 1992. [Ref. 3: p. 16-27]

The previous list of legislation, which was intended to encourage Federal agencies to become more environmentally responsible, had not resulted in Federal agencies procuring more recycled products as a normal way of business. Therefore, on October 31, 1993, the Clinton Administration passed EO-12873 which mandates implementation of an Affirmative Procurement Program by all Federal agencies. To date, the Department of the Navy (DoN) has not fully implemented an APP. This study identifies the major challenges Navy contracting agencies face in their attempt to implement an APP.

E. SCOPE OF THE THESIS

The main thrust of this thesis focuses on evaluating the challenges of implementing an Affirmative Procurement Program (APP) by Navy contracting agencies. In order to do that, this thesis first addresses the major challenges of implementing an APP pursuant with EO-12873. There are five major challenges associated with implementing an APP. They are, (1) compliance by all Navy field contracting agencies to procure environmentally preferable products and services,

(i.e., Green Acquisition); (2) compliance by all Navy field contracting agencies to incorporate environmental life-cycle cost² into procuring recycled products; (3) to get contractors to certify that recycled products meet the EPA minimum content guidelines for recovered materials; (4) to comply with the reporting requirements called for in an APP pursuant with EO-12873; and (5) to avoid inconsistent application of minimum content standards for recycled products. These issues are discussed in detail in chapter four.

The Executive Order does not give a specific time period for Federal agencies to have an APP implemented. To date the DoD, along with several other agencies, has not implemented an APP. An Affirmative Procurement Program Status is provided as Appendix D. DoD projects implementing an APP by September 30, 1995.

This thesis solicits information from three sources. They are, (1) the Office of the Assistant Secretary of the Navy, (Installation and Environment), ASN (I&E); (2) the Office of the Environmental Protection Agency (EPA); and (3) the Office of the Department of Agriculture, (USDA). It is beyond the scope of this thesis to solicit expert opinion from all Navy contracting agencies regarding the implementation of APP.

The researcher not only choose to solicit a Navy contracting agency, but also to solicit one agency that had successfully implemented an APP and one that had not. ASN (I&E) was chosen because they are key players in the Navy's implementation of APP. The Secretary of Defense (SECDEF) tasked ASN(I&E) in his Comprehensive Pollution Prevention Strategy to issue overall policy promoting DoN use of

² The amortization of a product's cost over its life span.

recycled products [Ref. 4]. Contacting ASN (I&E) should result in getting the Navy's official policy position on implementation of an APP and the use of recycled products.

EPA was chosen because they are instrumental in developing purchasing guidelines for procuring agencies. USDA was chosen because they have projected to complete implementation of an APP by the end of fiscal year 1994.

F. METHODOLOGY

This thesis will utilize three methods to gather data. The primary method will be a questionnaire sent to the Agency Environmental Executive (AEE) of the agencies previously mentioned. This questionnaire will be faxed and it will address the following areas:

1. Overall perceptions of APP required by EO-12873.
2. Anticipated impact of the APP on the agency.
3. Ability of the agency to comply with the requirements of the APP.
4. Actions necessary for the agency to comply with the APP.
5. Level of environmental awareness in the agency.

Telephone interviews will be conducted as a follow-up to the questionnaire and to ask any additional questions the researcher deems necessary. Reference material research will be conducted as well to find additional supporting information on the APP and to complete the balance of the research effort.

G. CHAPTER OUTLINES

1. Chapter I

This chapter will discuss the area of research, introduce the research questions, define the scope of the thesis, discuss methodologies used to collect data, and discuss the benefits of this study.

2. Chapter II

This chapter will discuss the impact the Navy has on the environment and provide a historical sketch of how EO-12873 came about. Next, it will answer subsidiary question 2(a) by defining what an APP is and discussing its requirements. It will also answer subsidiary question 2(c) by discussing the responsibilities of the Federal and the Agency Environmental Executives. Finally, it will discuss the responsibility of the ASN (RD&A) and the CNO.

3. Chapter III

This chapter will summarize and analyze the results received from the questionnaires. Then it will answer subsidiary question 2(b); What are some of the major problems facing AEE in their efforts to implement APP?

4. Chapter IV

This chapter will answer the primary research question based on the analysis of the results from the questionnaires received from ASN (I&E), EPA, and USDA. Next, the chapter will draw conclusions and make recommendations on how the Navy can improve their implementation efforts of the APP. Finally, this chapter will conclude by providing suggestions for further research related to the implementation of the APP.

This thesis provides appendices to supplement the reader with detailed information useful for understanding the main body of the research.

H. BENEFITS OF STUDY

This thesis will benefit the Department of the Navy (DoN) by identifying key issues facing Navy contracting agencies implementing an APP pursuant to EO-12873. It will hopefully provide the Navy with new ideas for implementing an Affirmative Procurement Program. The researcher believes that if the DoN compares its implementation problems against lessons learned of other agencies, it will be able to efficiently find solutions to some of its own problems.

II. BACKGROUND

A. INTRODUCTION

This chapter discusses the impact the Navy has on the environment and provides a historical sketch of how EO-12873 came about. Next, it will answer subsidiary question 2(a) by defining what an APP is and discussing its requirements. Finally, it will answer subsidiary question 2(c) by discussing the responsibilities of the Federal and the Agency Environmental Executives. It will also discuss the responsibility of the ASN (RD&A) and the CNO.

B. IMPACT OF THE NAVY ON THE ENVIRONMENT

The Navy exerts tremendous impact on the environment, through the amount of goods and services it purchases and the amount of real estate it stewards. In fiscal year 1992, the Federal Government spent \$286.6 billion on Department of Defense (DoD) outlays which was 25.4 percent of all Federal budget outlays [Ref. 5: p. 3]. In that same fiscal year, the Department of the Navy (DoN) spent \$96.9 billion, which was 33.8 percent of the DoD total outlays or 8.6 percent of the Federal outlays [Ref. 6]. The Navy must take environmental concerns into consideration when procuring products and services for the daily operation of its bases. Therefore, there should be a direct correlation between the amount of money spent on environmentally preferable products and services and the amount of real estate under the Navy's control.

The Navy controls vast amounts of real estate, which requires various stages of cleanup. The "**DoD Base Structure Report**" for fiscal year 93 shows that the DoN holds environmental stewardship over 3.984 million acres of land worldwide. This acreage includes 503 properties in the United States located on every state in the nation; eighteen

properties on U.S. territories and possessions; and sixty-four properties on foreign soils [Ref. 7: p. 8].

Vast DoD industrial activities produce in excess of a ton of toxic waste every minute. This amount is greater than that produced by the top five United States chemical companies combined [Ref. 8: p. 4]. The DoN accounts for a significant percentage of these industrial activities.

Federal procurement accounts for about 8 percent of all goods and services purchased. This figure is based on calendar year 1991 data from the "**Economic Report of the President**," submitted to the Congress in January 1993. DoN can play an important role in developing markets for materials containing recycled products by directing its purchasing power towards such products [Ref. 9]. This is one of the primary objectives of EO-12873.

C. HISTORICAL SKETCH OF EO-12873

1. Statutory Requirements of Executive Order 12873

Executive Order 12873 requires procuring agencies to develop and implement an Affirmative Procurement Program (APP) for each EPA designated item [Ref. 1]. EPA recommends that each agency develop and implement a comprehensive APP with a structure that provides for the integration of new items as they are designated [Ref. 10]. EO-12873 also requires an Agency Environmental Executive (AEE) be established in each agency who reports to the Federal Environmental Executive (FEE). The FEE is a political appointee housed at the EPA. The FEE reports APP matters to the White House Office on Environmental Policy (WHOEP). WHOEP was created in 1993 to focus special attention on environmental and energy-related matters [Ref. 11]. The Executive Order also encourages data and documentation be transferred electronically to the maximum extent practicable.

Executive Order 12873 was drafted to force the Federal Government to make fundamental progress in implementing the requirements of RCRA. Since limited progress had been made since its passage, from 1976 through 1992, the Administration felt stronger overall policy direction was necessary.

The Resource Conservation and Recovery Act (RCRA), P.L. 94-580, was passed on October 21, 1976. Section 6002, 42 U.S.C. 6962 of this Act, requires agencies to give preference in their procurement programs to the purchase of products containing recovered materials identified in guidelines published by EPA. [Ref. 2]

RCRA assigns responsibility to OFPP for coordinating this policy with other Federal procurement policies and for reporting to Congress on the progress made in implementing the policy. RCRA also assigns responsibility to the EPA for developing purchasing guidelines for use by procuring agencies. Procuring agencies use these guidelines in acquiring recycled products.

To date, five guidelines have been issued by the EPA. A summary table of EPA guideline items along with their date of issuance is listed below:

Table 1. Current EPA Designated Items

DESCRIPTION	FEDERAL REGISTER NOTICE & DATE	CODE OF FEDERAL REGULATIONS
Cement & Concrete Containing Fly Ash	48FR4230 1/28/83	40 CFR Part 249
Paper & Paper Products	53FR23546 6/22/88	40 CFR Part 250

Lubrication Oil containing Re-Refined Oil	53FR24699 6/30/88	40 CFR Part 252
Retread Tires	53FR46558 11/17/88	40 CFR Part 253
Building Insulation Products	54FR7328 2/17/89	40 CFR Part 248

Source: "Report to Congress" RCRA: A Report on Agencies' Implementation for Fiscal Years 1992 and 1993, of July 1994.

RCRA and EO-12873 require EPA to designate items that are or can be made of recovered materials³. EPA has to establish means to assist procuring agencies in meeting their purchasing requirements with respect to these items. For example, when EPA designates an item such as paper and paper products, it assigns a minimum content standard of recovered material that a product should have. For paper and paper products the minimum standards are as follows:

- For high speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders and white woven envelopes, the minimum content standard shall be no less than 20 percent postconsumer⁴ materials beginning December 31, 1994.
- For other uncoated printing and writing paper, such as writing and office paper, book paper, cotton fiber paper, and cover stock, the minimum content standard shall be 50 percent recovered materials, including 20 percent post consumer materials beginning December 31, 1994

³ Waste material and byproducts recovered from solid waste.

⁴. Postconsumer material is finished product that has served its intended use and has been discarded for disposal.

- As an alternative to meeting the previously mentioned standards for all printing and writing paper, the minimum content standard shall be no less than 50 percent recovered materials that are a waste material byproduct of a finished product other than a paper or textile product which would otherwise be disposed of in a landfill.[Ref. 1: sec. 504]

EPA is presently proposing to designate 21 additional items to the current list of designated items. The list was released for public review and comment in the Federal Register Vol. 59, No. 76, Wednesday, April 20, 1994. It can be found in the Comprehensive Procurement Guideline (CPG) for Products Containing Recovered Materials.

2. Background on Executive Order 12873

For fiscal years 1992 and 1993, Executive Order (EO) 12780, **"Federal Agency Recycling and the Council on Federal Recycling and Procurement Policy,"** was in effect. It required executive agencies to report to both EPA and OFPP by December 15 of each year on their efforts to implement RCRA, and EO-12780 acquisition requirements for APP and specification review.

On November 2, 1992, OFPP issued Policy Letter 92-4, **"Procurement of Environmentally-Sound and Energy-Efficient Products and Services,"** replacing two previously issued policy letters from August 6, 1976: Policy Letter 76-1, **"Federal Procurement Policy Concerning Energy Conservation,"** and February 2, 1977: Policy Letter 77-1, **"Procurement Products that Contain Recycled Material."** Current Policy Letter 92-4 delineates the following:

1. Sets forth statutory provisions applicable to the procurement process and requires the promulgation of uniform guidance and procedures.
2. Provides government-wide policies for the acquisition and use of environmentally-sound, energy-efficient products and services and

provides more direct and comprehensive guidance on RCRA compliance.

3. Directs the Federal Acquisition Regulatory Council (FARC) to ensure that the policies reflected in the Policy Letter are incorporated into the FAR in a timely manner. [Ref. 11: p. 2]

In March 1993, the OFPP Administrator submitted to the FAR Secretariat a document that reflected energy and environmental changes to the FAR. It was done to assist the FARC in moving forward on implementing changes to the FAR that incorporated the policies of OFPP Policy Letter 92-4 and EO-12780. [Ref. 11]

These recommended changes were developed by an interagency working group co-chaired by the OFPP Administrator and the Federal Recycling Coordinator (FRC). FRC is designated by the Administrator of EPA. This person is a senior official in the EPA and is responsible for reporting to OMB. They developed a survey and sent it to Senior Agency Procurement Executives. Results from the survey indicated that a large majority of the respondents wanted revisions to the FAR.

Representatives from various agencies helped develop the actual document of changes and recommendations. The majority of changes and recommendations were considered and approved by the Defense Acquisition Regulatory Council (DARC) and sent to the Civilian Agency Acquisition Council (CAAC) as a draft FAR Case 92-054. [Ref. 11] Both the DARC and CAAC are jointly responsible for maintaining the FAR. The two councils coordinate their activities and operate under a memorandum of understanding [Ref. 12: p. 41]. The interim rule incorporating these changes to the FAR was published in the Federal Register on April 20, 1994.

During 1992, OFPP staff also worked with the Council on Federal Recycling and Procurement Policy⁵ (CFRPP) to establish its priorities, agenda and goals. The intent was to move forward on the recommendations of its working groups and to implement the directives of EO-12780, while it was in effect.[Ref. 11]

Unfortunately, EPA has not had a long-term strategy for organizing its procurement guideline programs for designated items [Ref. 9]. This contributed to some of the ineffectiveness of EO-12780. Based on GAO report "Solid Waste, Federal Procurement to Buy Products with Recovered Materials Proceeds Slowly," the Executive Branch's environmental track record had been spotty at best into the early 1990s. Therefore, EO-12780 never quite had the effect it was intended to have.

In 1993, OFPP staff worked closely with the White House Office on Environmental Policy (WHOEP) to revamp and strengthen previous initiatives and helped to issue a number of Executive Orders in this area, including EO-12873, which replaced EO-12780 and is the focus of this study.

3. Other Administrative Initiatives

OFPP also worked closely with White House and National Performance Review (NPR) staff to endorse the concept of electronic commerce and lead Federal efforts to implement it. In a Presidential Memorandum on "**Streamlining Procurement Through Electronic Commerce**," signed by the President on October 26, 1993, agencies were directed to establish an initial electronic commerce capability by September 1994 [Ref. 11: p.10]. This initiative will eliminate unnecessary paper transactions in the acquisition

⁵ FRC chairs the CFRPP which consists of the Chairman of the Council on Environmental Quality, the Administrator of OFPP and other senior procurement executives.

process and foster more accurate reporting of purchases [Ref. 1].

The EPA has dedicated much effort to developing and issuing new RCRA product guidelines and guidance for agencies to purchase environmentally preferable products and services, as directed by EO-12873. The Office of Solid Waste, heading the effort to issue guidelines, has convened two interagency workgroups, one to revise the paper guidelines and a second to develop the Comprehensive Procurement Guideline (CPG) for products containing recovered materials. The CPG and a Recovered Materials Advisory Notice (RMAN), which recommends procurement practices for all new products listed in the CPG, was issued as a proposed rule and notice in the April 20, 1994 Federal Register. [Ref. 10]

Since Earth Day 1993, President Clinton has issued several other Executive Orders that highlight and advance his Administration's agenda to improve the environmental quality of life and reduce risks to human health and safety. OFPP actively participated in the development of the acquisition-related portions of these initiatives, which are summarized briefly as follows.

4. Executive Order 12843

On Earth Day, President Clinton issued this Executive Order on "**Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances (ODS).**" This Executive Order pushes the Federal Government to reduce their use of ODS through affirmative procurement practices and to provide leadership in their phaseout [Ref. 11: p. 11].

5. Executive Order 12844

This Executive Order on "**Federal Use of Alternative Fueled Vehicles,**" was issued to reduce pollutants in the atmosphere, create significant domestic economic activity

stimulating jobs creation, and utilize domestic fuel sources [Ref. 11: p. 11].

6. Executive Order 12845

This Executive Order on **"Requiring Agencies to Purchase Energy Efficient Computer Equipment,"** directs Federal agencies to set an example in the energy efficient operation of its facilities and the procurement of pollution preventing technologies, while saving taxpayer dollars [Ref. 11: p. 11].

7. Executive Order 12856

On August 4, 1993, the **"Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements"** Executive Order was issued. This Executive Order emphasizes that the Federal Government should set an example and become the leader in pollution prevention, and that federal agencies will set a voluntary goal of a 50 percent reduction in toxic emissions from Federal facilities by 1999 [Ref. 11: p. 12].

8. Executive Order 12902

On March 8, 1994, an Executive Order on **"Energy Efficiency and Water Conservation at Federal Facilities"** was issued to reduce overall Federal facility energy consumption levels by 30 percent, relative to agencies' 1985 energy use, by the year 2005 [Ref. 11: p. 12].

D. AFFIRMATIVE PROCUREMENT PROGRAM DEFINED

All Federal activities are now required by EO-12873 to maximize the use of recycled and environmentally preferable products and services. Each Federal procuring agency must, for individual or total procurement of items valued at over \$10,000, develop an Affirmative Procurement Program (APP). This program will assure that items composed of recovered materials, for which the EPA has established a guideline,

will be purchased to the maximum extent practicable without jeopardizing the intended end use of the product. [Ref.1]

Full implementation of APP will conserve solid waste disposal capacity, develop new markets and technologies for recycled materials, and establish the Federal Government as a model environmentally conscious consumer [Ref. 13]. In addition, these programs should consist of the following four components:

1. Preference program with practices and procedures which promote the procurement of recycled products.
2. Promotion program which actively promotes the agencies desire to buy recycled products and uses recycling logos on official documents to send a clear message to vendors.
3. Require estimates of the total amount of the recovered item used in a contract, certification of the minimum amount actually used, and procedures for verifying the estimates and certifications.
4. Provide for the annual review and monitoring of the effectiveness of the program. [Ref. 14]

Agencies shall ensure that 100 percent of their purchases, currently designated as EPA guideline items, meet or exceed the EPA guideline standards pursuant with EO-12873. Exceptions must provide written justification that a product is not available competitively within a reasonable time frame, does not meet appropriate performance standards or is only available at an unreasonable price [Ref. 1].

E. ASSIGNMENT OF RESPONSIBILITIES WITHIN THE DOD

To implement APP in DoD, key areas of responsibility have been assigned by SECDEF to maintain a satisfactory level of competition. All DoN commands will take

appropriate actions to conserve resources by using products containing recovered materials and promoting the cost-effective use of products and services that are environmentally preferable [Ref. 13: p. 1].

1. Chief of Naval Operations

The Chief of Naval Operations and the Commandant of the Marine Corps are responsible for ensuring that all Navy and Marine Corps activities make cost-effective use of products containing recovered materials and give preference to environmentally preferable products and services by March 1995 [Ref. 13: p. 3].

2. Assistant Secretary of the Navy (RD&A)

The Assistant Secretary of the Navy (RD&A) is responsible for issuing guidance to Navy contracting activities as necessary to implement affirmative procurement requirements for EPA-designated items. These items are paper and paper products, re-refined oil, retread tires, cement and concrete containing fly ash, and insulation products. [Ref. 13]

3. Agency Environmental Executives

An Agency Environmental Executives (AEE) shall be designated by the head of each executive department and major procuring agency within 90 days after the effective date of EO-12873 which is October 30, 1993. That person shall be from among the executive staff and serve at a level no lower than that of Deputy Assistant Secretary or equivalent. The AEE for the DoN is Ms. Sherri Goodman. She serves as the Deputy Under Secretary of Defense for Environmental Security). The Agency Environmental Executive is responsible for:

1. Coordinating all environmental programs in the areas of procurement and acquisition, standards and specification review, facilities management, waste prevention and recycling, and logistics.

2. Participate in the interagency development of a Federal plan to:
 - a. Create an awareness and outreach program for the private sector to facilitate markets for environmentally preferable and recycled products and services, promote new technologies, improve awareness about Federal efforts in this area, and expedite agency efforts to procure new products identified under this order.
 - b. Establish incentives, provide guidance and coordinate appropriate educational programs for agency employees.
 - c. Coordinate the development of standard agency reports required by this Order.
 - d. Review agency programs and acquisitions to ensure compliance with this Order. [Ref. 1: sec. 302]

The AEE has the ultimate responsibility within the agency to develop and implement an APP in accordance with the Executive Order. The AEE will track the agencies purchases of designated EPA guideline items and report the results to the Federal Environmental Executive (FEE). The AEE must also justify why items have not been purchased or submit a plan for how the agency intends to increase their purchases of the designated item.

F. THE FEDERAL ENVIRONMENTAL EXECUTIVE

A Federal Environmental Executive (FEE) is responsible for ensuring that all the agencies comply with the requirements of this Order and shall generate an annual compliance report to the Office of Management and Budget (OMB), at the time of agency budget submissions. The FEE shall be designated by the President and is located within the Environmental Protection Agency (EPA).

Ms. Fran McPoland was named as the new Federal Environmental Executive in July 1994. She consults with the Director of the White House Office on Environmental Policy (WHOEP) in carrying out her functions. She also has a minimum of four full-time staff persons provided by the Department of Defense (DoD), General Services Administration (GSA), Environmental Protection Agency (EPA), and one other agency determined by the Federal Environmental Executive. This agency shall be detailed on a rotational basis not to exceed one year.

The FEE shall establish committees and working groups to identify, assess, and recommend actions to be taken to fulfill its goals, responsibilities, and initiatives. Agencies are expected to designate appropriate personnel to these committees and working groups. They should have experience in a wide range of contracting and acquisition areas and in other areas as needed to staff and work on the initiatives of the Executive.

Finally, the Federal Environmental Executive shall:

1. Identify and recommend initiatives for government-wide implementation that will promote the purposes of this Order.
2. Collect and disseminate information electronically concerning methods to reduce waste, materials that can be recycled, costs and savings associated with waste prevention and recycling, and current market sources of products that are environmentally preferable or produced with recovered materials.
3. Provide guidance and assistance to the agencies in setting up and reporting on agency programs and monitoring their effectiveness.
4. Coordinate appropriate government-wide education and training programs for agencies.
[Ref. 1: sec. 301]

The FEE position is the highest position to be established by EO-12873. It is a high-level position because the Clinton Administration wants the APP to have the full support of the Federal Government behind it. Past experience proves that in order for the APP to be successful it must have a bite as well as a bark.

G. SUMMARY

This chapter discussed the impact the Navy has on the environment and the responsibility it has to manage over four million acres of land. The downsizing of the armed services will require the Navy to relinquish control of large portions of land it once controlled. Relinquishing the land does not, however, diminish the Navy's responsibility to clean up any environmental damage they caused during their use of the land.

Next, the chapter discussed how EO-12873 came about. It stated that procuring agencies are to develop and implement an APP for each EPA designated item. This program should have a comprehensive structure capable of integrating new items as they are designated by the EPA. Then the chapter answered subsidiary question 2(a) by defining what an APP is and discussing its requirements. An APP is developed to ensure Federal agencies purchase items containing recovered material to the greatest extent practicable. These programs shall also consist of four components:

1. Preference programs.
2. Promotion programs.
3. Procedures for verification and certification.
4. Annual reviews.

Finally, the chapter answered subsidiary question 2(c) by discussing the responsibilities of the CNO, ASN (RD&A), AEE and the FEE. Next, chapter three will summarize and analyze the results received from the questionnaires. Then it will answer subsidiary question 2(b); What are some of the major problems facing AEEs in their efforts to implement an APP?

III. RESULTS AND ANALYSIS FROM QUESTIONNAIRES

A. SUMMARY AND ANALYSIS OF DATA COLLECTED

This chapter summarizes the data collected from the questionnaires and analyzes that data. It then answers subsidiary question 2(b): What are some of the major problems facing Agency Environmental Executives in their efforts to implement an Affirmative Procurement Program? A copy of the questionnaire is provided as Appendix-D. A summary of what the questionnaire addresses follows:

1. Reveal the overall perception of an APP required by EO-12873.
2. Determine the DoN's ability to comply with the requirement to implement APP.
3. Determine actions that would facilitate compliance with the Order.
4. Determine the level of environmental awareness in the DoN.
5. Determine the anticipated impact of implementing APP.

B. METHODOLOGY

The researcher telephoned ASN (I&E), EPA and USDA and asked to speak with the AEE. In each case, the AEE was not available and a representative of the AEE spoke with the researcher. After explaining the nature of the research being conducted, permission was given to send a questionnaire to the AEE so that they could respond to it. The questionnaire was faxed to each office with a copy of EO-12873 as an enclosure. All three agencies responded to the questionnaire and the results were faxed to the researcher. Two agencies provided additional supporting documentation, which was very helpful in the research. The next section of this chapter is divided into the five major

areas that the questionnaire addresses. The responses for each area are summarized and analyzed by the researcher.

C. PERCEPTIONS

1. What is your perception of the general intent of EO-12873?

- To encourage recycling and the purchase of recycled content and environmentally preferable products by the Federal Government.
- To use Federal purchasing power to affect waste reduction, create new business and jobs and support technological development of new recycled products.
- To increase the use of environmentally preferable products and also recycled products and services.

2. Please explain the challenges you expect to encounter or which you encountered as you implemented the Affirmative Procurement Program?

- Training agency personnel about the Executive Order requirements and ensuring that employees in all levels are aware of the APP.
- The challenge is changing the mindsets from old habits to giving a fair chance to new types of products.
- Getting all agencies to use Green Acquisition planning and environmental life-cycle cost. Also to get contractors to comply with EPA designated minimum standards.

3. In your opinion, is there really a need to have an Affirmative Procurement Program?

- All three agencies responded yes.

4. Analysis

The above responses suggest a favorable general perception of the APP among all three agencies. They all seem to agree that the Federal Government can make a

difference by using its purchasing power to create a market for recycled products. President Clinton's intention for APP is to use the Federal Government's demand for recycled products to spur private sector development of new technologies. [Ref. 1]

There also appears to be a strong need for training among the agencies to change the way they do business. Training is probably the most important action that Navy contracting agencies can take to ensure compliance with the requirements of the APP. The additional procurement considerations, required to purchase environmentally preferable products and services, are learned by training. Contracting personnel need to ensure that all product descriptions (e.g., work statements, drawings, plans and specifications) consider the factors involved in Green Acquisitioning. These factors are, elimination of virgin material requirements, use of recovered material, recyclability, environmental life-cycle cost and waste prevention.

Training is also the linchpin of cultural change. It provides the necessary skills and knowledge that Navy contracting personnel need to implement the APP. The way to create cultural change in the existing Navy contracting system is to provide continuous and systematic training and education programs for both Navy contracting personnel and their contractors. Training breaks down the existing mindset that some contracting personnel have about recycled products being inferior to products made of virgin material. It is not surprising that contracting personnel have fears about the quality of the products they are purchasing since eliminating the requirement for virgin material is one of the factors they have to consider.

There is a need to eliminate excessive contract requirements for virgin materials if there is to be an

increase in the procurement of recycled products. The requirement for virgin material creeps into contracts due to the business-as-usual approach. The DoN solicitations and contracts procedures must be stripped of any requirements that do not add value to the contract. Without increased training and education, there will be no cultural change among Navy contracting personnel.

Finally, there must be commitment from senior contracting personnel to create an atmosphere within their agencies that ensures that the APP will succeed. One of the agencies stated that:

An Affirmative Procurement Program, properly implemented, will ensure that the Federal Government will put its purchasing power behind the "buy-recycled" effort and help to create markets for recovered materials.

The key to a successful APP is proper implementation. The Clinton Administration is the first administration to appoint a Federal Environmental Executive responsible for reporting to the White House Office of Environmental Policy (WHOEP). The APP will get the high-level visibility it needs in order to be properly implemented. The reason that implementation of the APP was so slow in the past is that it did not get this type of high level exposure and subsequently faltered.

D. AFFIRMATIVE PROCUREMENT PROGRAM COMPLIANCE

1. As your contracting agency is currently structured, could you fully comply with the Affirmative Procurement Program requirements of Executive Order 12873?

- Two responded yes.
- One responded no.

2. In what time frame do you expect to be in compliance?

- Two responded in 12-24 months and one responded during fiscal 95.

3. Who is your Agency Environmental Executive?

- Each agency indicated that an Agency Executive had been appointed.
- Ms. Anne Reed, Deputy Assistant Secretary for Administration, is the AEE for USDA.
- Mr Jonathan Cannon, Assistant Administrator for the Environmental Protection Agency, is the AEE for EPA.
- Ms. Sherri Goodman, Deputy Under Secretary of Defense, (Environmental Security), is the AEE for DoN.

4. Analysis

The EPA and ASN (I&E) indicated that they can fully comply with the requirements of the APP pursuant with EO-12873. USDA indicated that they cannot fully comply. The APP consists of four components. They are; (1) preference programs; (2) promotion programs; (3) estimation, certification and verification capability; and (4) annual review and monitoring capability. In order to comply with the requirements of the APP, the EPA created an Affirmative Procurement Action Team (APAT). APAT was established in March 1994 and tasked with developing an agency strategy for acquisition of recycled content and environmentally preferable products and services. [Ref. 15] One of the key areas the APAT focused its strategy efforts on was EPA contracts. The APAT recommended that EPA revise their contract manuals and training programs; develop outreach and training modules to promote the APP; and track small purchases of recycled products through their agency bank card program.

Additionally, EPA teamed with GSA to publish a training guide called the "Federal Waste Reduction Guide." The purpose of the guide is to provide useful information on reducing, reusing and buying recycled products. [Ref. 16]

The USDA indicated that they could not fully comply with the APP requirements as they are currently configured. Their APP is under development and was expected to be implemented by the end of fiscal year 1994. As of November 4, 1994, their APP has not been implemented according to their response to the questionnaire. They did not fully elaborate on the reason that they have not completely implemented an APP.

The ASN (I&E) indicated that they could comply with the requirements of the APP given an additional 12 to 24 months to do so. The Navy's ultimate goal is to fully comply with the requirements of the APP by September 30, 1995. They have attempted to comply with the requirements of the APP by:

1. Announcing the preference policy to procure EPA designated items in a memorandum from USD (A&T) of August 25, 1994.
2. Attempting to develop an electronic commerce system which will support acquisitions to the \$100,000 threshold and allow contractors to use commercial hardware/software to obtain information.
3. Establishing goals for a ten percent reduction in solid waste by 1995 on a 1994 base.

The aspect that distinguishes Navy contracting agencies from the EPA and USDA is its size and the amount of funding it receives. First, there is the size of the agency that must be considered. DoN is the largest of the three agencies solicited and they are not in compliance. The DoN has over 900 contracting activities. Navy's target date for

compliance is September 1995 but their estimated completion date for the electronic commerce system is January 1998.

Electronic commerce is a win-win situation for both Navy contracting agencies and their contractors. Electronic commerce has the capability to provide electronic notices and can enhance access to DoN procurement information for small businesses. Navy contracting agencies will improve their efficiency because electronic commerce minimizes the workload of the procurement process. Minimizing the workload should lead to an increase in productivity, a decrease in the time spent on preaward activity and enables better procurement administration [Ref. 17] The researcher believes that until DoN fully implements an agency-wide electronic commerce system that the previously mentioned benefits of the system will not be fully exploited by the DoN.

Finally, there is the issue of funding as a result of the current force drawdown. The DoN's operating funds are being cut to supplement mandatory entitlement programs such as medicare, social security, military retirement pay and food stamp programs. What is unique about mandatory entitlement is that: (1) the recipients have a legal right to payment from the government; (2) the size of the payments are determined by criteria such as a formula written into the law; and (3) the Federal Government is obligated to make the mandatory payment. [Ref. 18] Chapter four will discuss the Navy's concerns of a cost burden associated with the reporting requirement of EO-12873. Navy contracting agencies have a legitimate concern since their operating funds are already being reduced by these increases in mandatory entitlement expenditures.

E. ACTIONS WHICH WOULD FACILITATE COMPLIANCE

1. What are some of the major problems facing Agency Environmental Executives in their efforts to implement an Affirmative Procurement Program?

- Two agencies indicated training.
- All three indicated funding.
- Two indicated manpower.
- One also indicated attitudes of reluctance towards change.

2. Based on your response to question #1, what action will/did your agency take to address these problems?

- Lots of program promotions and information.
- Created an Affirmative Procurement Action Team (APAT) to develop a comprehensive implementation strategy.
- Developing Task Force to study the issues and formulate solutions.

3. Analysis

The researcher expected all the agencies to indicate that some increase in training, funding or manpower would be needed to facilitate compliance. Contracting personnel are encouraged to conform to rules and avoid risk rather than be innovative and use good business judgement. Continued reduction in both military and civilian personnel and the need to reduce infrastructure means there will be further reductions in the acquisition workforce in the future. [Ref. 19]

Problems in training, funding and manpower will persist until acquisition reform is achieved. To achieve acquisition reform, Navy contracting agencies must:

1. Be able to rapidly acquire recycled products from reliable contractors who utilize the

latest manufacturing techniques and procedures.

2. Be able to adopt the business practices of their best customers and suppliers.
3. Be free to stop applying unnecessary requirements on its contractors.
4. Design in source reduction measures for all future new weapon systems to maximum extent possible.

There was one unexpected response that stated that resistance to change was very high in some areas and presents a potential problem. This raises an age-old question of how do you overcome the tendency to resist change in your employees without potentially alienating them from the process? This is best explained by discussing the difference between management and leadership.

Management is about coping with complexity. Good management brings a degree of order and consistency to key dimensions such as the quality of the product. Leadership, by contrast, is about coping with change. More change always demands more leadership [Ref. 20: p. 103]. Although the challenge of implementing an APP in an agency is a complex issue to manage, it requires more leadership skill than management skill. The reason is that leading an agency through complex changes requires developing a vision of the future along with strategies for producing the changes needed to achieve that vision. So, in the case of resisting change in an agency, there is probably too much management and not enough leadership.

The agencies also indicated that positive initiatives are happening within the agencies to meet the challenges of implementing an APP such as:

- Aggressive promotion and information programs to educate both internal and external audiences.

- Creation of APAT to formulate comprehensive implementation strategies.
- Appointing AEEs in the agencies.
- Attempting to make the language of the FAR coincide with the intent of EO-12873.
- Establishing electronic commerce systems capable of supporting the new small purchase acquisition threshold of \$100,000 and allowing contractors to use commercial hardware to obtain information.

This type of initiative is a step in the right direction. On October 13, 1994, President Clinton signed the Federal Acquisition Streamlining Act into law. The Act contains a number of remedies for the bureaucratic red tape that has hampered the procurement system. The major features of the Act will simplify small purchases, make it easier to purchase commercial products, encourage use of electronic commerce, encourage use of past performance in contract awards and promote innovative pilot programs. [Ref. 21]

F. ENVIRONMENTAL AWARENESS

1. Does your agency currently have its own set of guidelines for the procurement of environmentally preferable products?

- Two agencies indicated yes.
- One agency indicated no.

2. How successful has the Agency Environmental Executive (AEE) been in creating an awareness and outreach program for both the private sector and its own employees?

- Not yet accomplished.
- We have initiated awareness programs for employees including a 1994 week-long Earth Day event that featured exhibits and demonstrations on environmental

products, new uses of agricultural products and energy efficiency.

- Many regions are working with other Federal agencies and the private sector.

3. What incentives does your agency use to motivate compliance with the Affirmative Procurement Program?

- Two agencies indicated none.
- One agency stated that its incentive was modification of the Federal Acquisition Regulation.

4. Has your agency submitted the annual report required by the Order?

- Two indicated no.
- One indicated yes.

5. Does the Agency Environmental Executive have a permanent staff to assist in reviewing agency programs and acquisitions to ensure compliance with the Order?

- Two agencies indicated no.
- One indicated yes.

6. Are there collateral duties for the Agency Environmental Executive, unique to your agency, not spelled out in the Order?

- All three agencies indicated no.

7. Analysis

It is important for Navy contracting personnel to be aware of the impact that the Navy exerts on the environment. This level of awareness will improve as training incorporates Navy environmental policy. SECNAV Notice 5090 is the current policy guideline that Navy contracting agencies follow when procuring recycled products. Its purpose is to provide DoN guidance on developing

requirements for using environmentally preferable products and services in daily naval operations [Ref. 13].

The EPA seems to have done the best job, of the three agencies, in establishing awareness and outreach programs to the private sector and its own employees. As previously mentioned, EPA teamed with GSA to publish a training guide to compliment two comprehensive conferences sponsored in fiscal year 1993 entitled "Watch Your Waste" [Ref. 16]. USDA did something very similar by sponsoring a week-long "Earth Day" conference, which featured exhibits and demonstrations for both its employees and its contractors. In contrast, Navy has not accomplished an awareness or outreach program to date.

The EPA is the only agency that indicated it is developing an awards program to use to motivate compliance with the APP. EPA has also submitted their required annual report and appointed permanent staff to their AEE. Neither USDA nor Navy has done this. It should be noted that EO-12873 does not specifically call for the AEE to have staff members. Nevertheless, the agency that did provide staffing for their AEE has also complied with the reporting requirements and is developing an awards program that is in accordance with EO-12873. This would suggest that there needs to be a high level of motivation and commitment within the agency to make the APP work.

Curiously, the Navy stated that it motivates compliance with the APP through modifications to the FAR. This response seems somewhat strange at first because it does not appear to relate to motivating people. However, when the response is associated with the intentions of the National Performance Review (NPR) to reinvent government, it makes sense. The Navy is suggesting, by its response, that it have its contracting agencies move away from rigid rules and risk aversion and move towards guiding principles that

encourage good business judgement. This will allow their agencies flexibility in various contracting situations; promote innovation; and motivate compliance with the APP.

G. ANTICIPATED IMPACT

1. What do you expect the principle impact of the Affirmative Procurement Program to be on the procurement and programs personnel in your agency?

- Increased cost of doing business and increased lead times.
- Initially, there will be budget impact for spending additional dollars on recycled products. Also, procurement personnel will need to determine what preference factor weight should be considered in making contract determinations.
- Enhanced awareness of the benefits and scope of the program. Expanded purchases of recycled content and environmentally preferable products.

2. Are you familiar with the Environmental Protection Agency (EPA) guideline item list of environmentally preferable products?

- All three agencies indicated yes.

3. Has your agency established Affirmative Procurement Programs for all designated EPA guideline items purchased by your agency?

- One indicated yes and one indicated no.
- One indicated that it was in draft.

4. Analysis

USDA states that they expect the initial major impact of implementing the APP to be in their budget. They expect to have to spend more money on recycled products. However, USDA did not provide evidence to support their position. Many recycled products are cost competitive with virgin

materials. High prices tend to result from economy of scale differentials and lower historical demand for recycled products [Ref. 16]. Recall that one of the goals of EO-12873 is for the Federal Government to create a market for recycled products. This will subsequently increase the historical demand for these recycled products.

Similarly, Navy states that they expect an increased cost in doing business as well as an increase in lead time to get recycled products. In chapter four, Navy argues that the reporting requirements of the APP will create an additional cost burden of \$68.1 million annually. They also argue that there could be a potential increases in the cost of procuring recycled products due to inconsistent application of EPA minimum content standards.

Electronic commerce is designed to increase efficiency and to decrease cost through waste reduction. Consider the previous discussion on environmental life-cycle cost and recall that it considers amortized cost of the recycled product. That means that although the price of the recycled product may be greater initially that over the long run, the cost can be lower. The electronic commerce system that the Navy finally adopts will probably have a high initial setup cost. When cost versus savings is amortized over the long run, the system should cost the Navy less than if they had continued doing business as usual.

Also, Navy senior procurement leadership must guide their contracting agencies around potential minefields that would result in the inconsistent application of minimum content standards. The EPA expects the APP to have a positive effect on their agency. As previously stated, there must be a high level of motivation and commitment within the agency to make the APP work. The EPA has developed a vision of what the APP will look like. As the response in the questionnaire states: "It will expand

response in the questionnaire states: "It will expand purchases of recycled content and environmentally preferable products." The senior leadership at EPA is committed to leading EPA through the complex changes required to implement the APP.

So far, this chapter has summarized and analyzed the results of the data from the questionnaire. The final section of this chapter answers subsidiary question 2(b); What are some of the major problems facing Agency Environmental Executives (AEE) in their efforts to implement an APP? The results and analysis of the questionnaire have revealed that the AEE for Navy contracting agencies has many problems to tackle such as:

- Establish continuous and systematic training programs within their agencies. These training programs must be designed to heighten environmental awareness of the impact the Navy has on the environment and to create cultural change in Navy contracting personnel and their contractors.
- Work to increase the procurement of recycled products through the elimination of excessive contract requirements for virgin materials and to create an market for recycled products with the Federal Government setting the standard.
- Formulate comprehensive strategies that will lead their agencies through the complexities of implementing an APP.
- Develop teaming relationships with other agencies to the maximum extent practicable in order to promote the agency's preference for environmentally preferable products and services.
- Develop and implement an electronic commerce system capable of supporting the new simplified acquisition threshold of \$100,000.
- Enforce acquisition reform by encouraging innovative procurement practices and good business judgement. This will help to counter the downsizing of their

agency workforce and allow agencies to do more with less.

- Be willing to give the APP an opportunity to succeed. This involves total commitment throughout the agency but especially at the senior procurement levels.

This chapter has summarized and analyzed the results of the questionnaire and it has answered subsidiary question 2(b). Chapter four will answer the primary research question based on the analysis of the results from the questionnaires received from ASN (I&E), EPA, and USDA. Then it will draw conclusions and make recommendations on how the Navy can improve their implementation efforts of the APP. Finally, this chapter will conclude by providing suggestions for further research related to the implementation of the APP.

IV. MAJOR CHALLENGES FACING NAVY CONTRACTING AGENCIES ATTEMPTING TO IMPLEMENT AN AFFIRMATIVE PROCUREMENT PROGRAM

A. CHALLENGES FACING NAVY CONTRACTING AGENCIES

Navy contracting agencies face five major challenges in implementing an Affirmative Procurement Program. These challenges are:

1. Compliance by its field contracting agencies to procure environmentally preferable products and services (i.e., "Green Acquisition.")
2. Compliance by its field contracting agencies to incorporate environmental life-cycle cost into the acquisition process of recycled products.
3. Getting contractors to comply with the minimum standards for recovered materials designated by EPA.
4. Attempting to reduce the burden of complying with the reporting requirements of the APP pursuant with EO-12873.
5. Having its agencies avoid inconsistent application of minimum content standards for recycled products when procuring these items.

This chapter answers the primary research question based on the analysis of the results from the questionnaires received from ASN (I&E), EPA, and USDA. Next, the chapter draws conclusions and makes recommendations on how the Navy can improve their implementation efforts of the APP. Finally, this chapter concludes by providing suggestions for further research related to the implementation of the APP.

1. Green Acquisition Planning

"Green Acquisition" is the procurement of environmentally preferable products and services. This is consistent with policies established by OFPP Policy Letter 92-4. [Ref. 14] Recall that environmental preferability

92-4. [Ref. 14] Recall that environmental preferability means products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. [Ref. 1] The challenge of "Green Acquisition" planning for the DoN is that it encompasses so many areas.

A fully developed acquisition plan involves all elements of a procuring agency, such as technical, financial, schedule, contractual, quality assurance, reliability, and logistic activities. When you begin to consider "Green Acquisition" planning, you add in additional concerns such as elimination of virgin material requirements, use of recovered materials, recyclability, waste prevention and environmental life-cycle cost of such items [Ref. 1: sec. 401]. Further discussion of each of these areas with the exception of environmental life-cycle cost follows. Environmental life-cycle cost is discussed as a separate major challenge to the Navy later in the chapter.

a. Elimination of virgin material requirements

Virgin material is a raw material used in manufacturing that has been mined or harvested and has not yet become a product [Ref. 22]. Elimination of virgin material requirements from DoN contracting military specifications and standards is essential in order to promote the increased use of recycled products.

For years, military specifications have created barriers for purchasing recycled products and in most cases they still do. Many people will agree that one of the most important ways to stimulate demand for recycled products is for the Government to use its purchasing power. By pushing for elimination of virgin material barriers, DoN will change the way it buys.

b. Use of recovered materials

Recall that recovered material is waste material and byproducts which have been recovered or diverted from solid waste. This does not include those materials and byproducts generated from and commonly reused within an original manufacturing process [Ref. 1]. It should be noted that products reused within an original manufacturing process are recycled materials. Basically, recycled material can be utilized in place of raw or virgin material in manufacturing a product and consists of materials derived from post-consumer material [Ref. 14]. Recall that post-consumer material is material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item [Ref. 1].

The challenge of using recovered materials is in the possible inconsistent application of minimum content standards. EPA guidelines allow for minimum content standards and case-by-case procurement standards. The guidelines recommend that procuring agencies use minimum content standards for products when they have been established. The guideline further recommends that agencies use case-by-case procurement when purchasing items for which minimum content standards have not been established [Ref. 22]. Navy has over 900 contracting offices and awarded 2.3 million contracts in 1993 [Ref. 23]. With that many contracts being awarded annually, there is tremendous opportunity for inconsistent application of minimum standards on a case-by-case bases.

c. Recyclability

Recyclability is the ability of a product or material to be recovered from or otherwise diverted from the solid waste stream for the purpose of recycling [Ref. 1]. The challenge for DoN is to identify EPA designated items,

that although they meet recyclability standards, they do not meet operational standards. Antifreeze has the potential of being one such item [Ref. 24].

DoN operates vehicles all over the world in all types of weather conditions. Antifreeze is an important element in the proper operation of these vehicles. If the recycling process of antifreeze alters its properties in any way, it could potentially affect the operational capabilities of these vehicles in extreme operational conditions. In this case, the Navy could exercise the exception rule on performance standards.

There are environmentally preferable antifreeze products available commercially. However, it is beyond the scope of this thesis to investigate the availability of environmentally preferable antifreeze products in the Navy Supply System. It is possible that there is no such item available in the Navy Supply System. This is based on Senator Carl Levin's (D-Mich), Chairman of Senate Governmental Affairs Subcommittee on Oversight of Government Management, dissatisfaction with the testimony of Mr. Allan Burman, (OFPP Administrator) and Mr. Richard Morgenstern (EPA Acting Assistant Administrator for Policy, Planning and Evaluation). Their testimony revealed that the 1991 GSA Supply Catalog lists products that are not environmentally sound and provides no references to environmentally friendly products. [Ref. 25] This suggests that an environmentally preferable antifreeze was not listed in the 1991 GSA Supply Catalog.

d. Waste prevention

Waste prevention, also known as source reduction, means any change in the design, manufacture, purchase or use of materials or products to reduce their amount of toxicity before they become municipal solid waste [Ref. 1]. In an effort to eliminate problems associated with new weapon

systems throughout the military, the DoD issued two documents in 1991 on environmental policy and procedures. These documents are DODI 5000.2 and 2-M, which require program managers to address environmental concerns at each step of the acquisition process. Likewise, in the area of paper waste, the DoN is taking steps to implement paperwork reduction into its day-to-day operations. The challenge for the DoN is to implement an electronic commerce system to share information among its agencies and to reduce waste by eliminating unnecessary paper transactions during the procurement process.

DoN is currently developing an electronic data interchange system to collect and disseminate information of environmentally preferable products. The estimated completion date is January 1998. [Ref. 13] Until that time, Navy is faced with doing business as usual. When complete, an electronic commerce system should do several things for the DoN:

1. Promote waste prevention by the elimination of unnecessary paper work.
2. Allow faster and more accurate data collection and reporting.
3. Put the DoN in compliance with statutory regulations.

Executive Order 12873 requires major procuring agencies to implement an electronic commerce system consistent with the recommendations of the National Performance Review (NPR). One of the NPR's goals is to reinvent the Federal Government by eliminating unnecessary spending and waste.

2. Environmental Life-Cycle Cost

The second major challenge DoN faces is environmental life-cycle cost. Environmental life-cycle cost is the amortization of the annual cost of a product over the life

of the product. It takes such costs as capital, installation, maintenance and disposal into consideration [Ref. 1]. It should be noted that environmental life-cycle analysis is the comprehensive examination of a product's environment and economic effects throughout its lifetime, including new materials extraction, transportation, manufacturing, use and disposal [Ref. 22]. Environmental life-cycle cost seeks to determine the total cost of performing a given function during the useful life of the equipment performing the function. It focuses on the total cost of ownership rather than on initial price [Ref. 26: p. 328]. In initiating a sealed bid procurement, a solicitation may be issued that incorporates a provision requiring the bidder to specify a computed total life-cycle cost, rather than price, as the criterion upon which the contracting officer will select a source. This technique has been employed in the purchase of certain nonrepairable end items, such as aircraft tires by the Air Force and batteries by the Army [Ref. 12: p. 251].

For these nonrepairable items, the basis for the environmental life-cycle cost award has been the cost to the government per unit of service derived from the sum of price paid, plus a factor for service life computed on the particular product offered [Ref. 12: p. 254].

Currently, EPA has five designated guideline items with 21 additional items under proposal. All agencies shall ensure that their APP requires that 100 percent of the designated items purchased meet or exceed EPA guideline standards. The challenge is to do this without an environmental life-cycle cost model.

The DoN is to provide interim guidance to program managers and requiring activities on environmental life-cycle cost data available for specific product categories until an environmental life-cycle cost model is identified

or developed. Development of this environmental life-cycle model is scheduled to begin in December 1994. [Ref. 13]

3. Contractor compliance

Integrating compliance into future contracts is a big challenge for the DoN. It is the Navy's position that contractors will comply with the terms and conditions that the contract requires. Recall from the discussion in chapter two that DoD estimates indicate reporting requirements compliance comes at a cost to the contractor. So, one of the first challenges for DoN should be to help contractors overcome the potential financial hurdles that statutory regulation compliance might present. This is particularly true for small businesses that are not as financially sound as some of the larger businesses. The second challenge for DoN is to assure compliance through self-certification and audits.

Qualification requirements for certification typically are rigorous. They start with a tightened capability survey to ensure mutual agreement on the quality control system the supplier will employ. At this point in the process, the buyer's quality control personnel work with their counterparts in the supplier's organization to fine-tune the system and develop inspection procedures to be used.

Next, the supplier's output is subjected to periods of 100 percent inspection and subsequently to periods of sampling inspection during which a predetermined percentage of lots are required to pass. Once a supplier has gained certification, the buyer's goal is to do very little, if any, inspection of incoming materials. Firms that have used certification programs generally have experienced favorable results. One such program is the ISO 9000 management

system.⁶ Inspection costs typically are reduced, while quality levels usually remain high. Most suppliers take pride in being included on a customer's certification list. They are also aware that good performance places them in a favored position to receive additional business.

Auditing is typically an accounting function. The procurement person's job is technically over when an order has been received in the plant and is ready for use. However, auditing is a repetitive and time consuming task that should be handled as efficiently as possible. Because of the high cost of auditing, many companies do not verify the accuracy of low-dollar value invoices.

In the purchase of environmentally preferable products and services, a strong case could be made to task the procurement personnel with doing the audit. This individual should be familiar with the environmental aspects of the purchase. However, additional man-hours will be required for procurement personnel to do audits especially considering the Navy's goal to substantially increase the amount of environmentally preferable procurements.

4. Reporting requirement of EO-12873

EO-12873 requires that agencies track and report the success of their Affirmative Procurement Program. The Executive Order tasks the Agency Environmental Executive (AEE) with this task. It specifically states that:

The Agency Environmental Executives will track the agencies' purchases of designated EPA guideline items and report the agencies' purchases of such guideline items to the Federal Environmental Executive. Agency Environmental Executives will be required to justify to the Federal Environmental Executive as to why the

⁶ This system is built on trust and commitment between the buyer and the seller. It is designed to eliminate the adversarial relationship that commonly exists between them.

item(s) have not been purchased or submit a plan for how the agencies intend to increase their purchases of the designated item(s) [Ref. 1].

This information collection applies to acquisitions requiring minimum percentages of recovered material, when the price threshold of \$10,000 is met. This information is used in the annual review and monitoring of each agency APP effectiveness and is expected to be collected electronically.

EPA proposed its data collection requirements as an interim rule and notice in the Federal Register Vol. 59 No. 76, April 20, 1994. They propose that agencies must choose one of the following methods to collect data on the APP pursuant with EO-12873: (1) on the percentage of recovered materials content in the items procured or offered; (2) on the comparative price information on competitive procurement; (3) on the quantity of each item procured over a fiscal year; (4) on the availability of each item with recovered materials content; and (5) on the performance information related to recovered materials content of an item [Ref. 10]. Public comments are being solicited on this interim rule.

DoD responded with a Paperwork Burden Estimate that addressed the estimated annual cost, in terms of time and money, to the Government and its contractors. ASN (I&E) provided the researcher with a copy of the estimate and figures from the estimate are provided in the next example for better understanding.

The Navy agrees with estimates that it will cost an additional \$68.1 million annually to meet the reporting requirement of the APP pursuant with EO-12873. The Paperwork Burden Estimate states that use of improved

technology⁷ will not reduce the burden of the requirements. Actual figures from the Paperwork Burden Estimate are provided below:

(1) Cost to the Government. DoD estimates that the Government will spend an average of 15 minutes reviewing and analyzing each response. The estimated average cost per hour is based on the current salary for a GS-11, Step 5, plus 26.1 percent burden.

Number of responses	3,784,054
Average hours per response	.25
Total hours	946,014
<u>Cost per hour</u>	<u>\$24.00</u>
Total cost to Government	\$22,704,336

(2) Cost to contractors. DoN believes that most contractors are knowledgeable of the composition of the items that they provide. They have a good idea of what percentage of recovered material is in the item. Navy contracting agencies care about this because contractor compliance to specifications and standards becomes an important issue in contract awards. Therefore, contractor compliance with this reporting requirement should not require a significant amount of research. DoD estimates that an average of 30 minutes will be required for offerors and contractors to research, prepare, and submit the required information. The estimate did not explain why it takes twice as long as the government in this case. The researcher believes that since both the offeror and the contractor are involved in the research, preparation, and submission that additional time is required.

⁷ Improved technology suggests the use of automated data base systems and electronic commerce systems.

The estimated average cost per hour is the same as before. Computations are shown below:

Number of responses	3,784,054
Average hours per response	.5
Total hours	1,892,027
<u>Cost per hour</u>	<u>\$24.00</u>
Total cost to contractor	\$45,408,648
Plus cost to government	22,704,336
<u>Total estimated cost</u>	<u>\$68,112,984</u>

Information collection is required by Navy contracting agencies in accordance with EO-12873 each time an offeror responds to a solicitation containing a requirement for a designated item. A report is also required annually, by November 1 of each year for each contract containing a requirement for an EPA designated item [Ref. 27]. The total estimated cost previously discussed is for the five current EPA designated items. Recall that EPA recently proposed to incorporate 21 additional items to the designated items list. As the list of designated items grows, the annual estimated cost is expected to grow as well.

5. Potential inconsistent application of minimum content standards for recovered materials

RCRA and EO-12873 require EPA to designate items that are or can be made with recovered materials and to recommend practices to assist procuring agencies in meeting their obligations with respect to designated items under RCRA Section 6002. After EPA designates an item, RCRA requires that each procuring agency purchase those designated items composed of the highest percentage of recovered materials practicable. [Ref. 10] The DoN submitted comments on the EPA proposed rule and notice previously discussed. ASN (I&E) provided the researcher with a copy of those comments.

Figures and examples from the comments are provided in this section as well to aid in understanding the material. DoN raised several interesting issues in their comments on the EPA's Proposed Rule and Notice published in the Federal Register, Vol. 59, No. 76, April 20, 1994 [Ref. 28].

First, according to documents provided by ASN (I&E), the Navy contends that EPA has failed to properly address the wording "recommended practices for procurement of designated items" that applies to the APP pursuant to EO-12873. The Navy expects this to result in a widely inconsistent application of minimum content standards by procuring agencies. Navy believes that the procurement practices of designated items can and will vary widely from agency to agency without specific minimum standard guidance from EPA. Second, Navy contends that the EPA's proposal on minimum standard ranges, which will allow agencies to set their own minimum content standard, will further exacerbate the inconsistency issue.

EPA is proposing to change the approach to establishing recovered material content levels. In the past, single number recovered material content levels that represent the national minimum level were used. EPA is proposing that recovered material content ranges be used instead. They feel that content ranges, in conjunction with the agencies' own research into the recovered material content, will be sufficient to make prudent decisions. [Ref. 10] Many contractors supply more than one Federal agency and each agency could have different minimum content standards. This could be the result of the research the agencies have conducted and the needs of their customers.

Finally, Navy contends that these inconsistencies will spill over into the evaluation process for recycled products. To demonstrate the issue, Navy selected structural fiberboard products in the example they give in

their comments to the EPA proposal. The EPA recommends 20 percent content levels for the postconsumer recovered paper component and 40 to 80 percent for the recovered materials component. Based on this information, an Invitation for Bid (IFB) would specify offerors to certify that the fiberboard meets the minimum specifications for recovered materials. Note that many EPA-designated items are currently obtained by sealed bids or using small purchase procedures and awarded on a price only factor, (e.g., the lowest responsive and responsible bid gets the award). In this example the Navy assumes the following offers come in:

Table 2. Examples of potential offers

Offeror	% Post consumer	% Recovered	Price
1	100	0	120
2	10	90	115
3	20	0	105
4	5	0	90
5	0	80	100
6	20	40	112
7	0	0	88

Source: Department of the Navy Comments on EPA Proposed Rule and Notice, Federal Register, Vol. 59, No. 76, April 20, 1994

Unfortunately, no analysis of this example is provided in the comments. Navy asked EPA, if under a scenario such as this, perhaps for award of a contract valued at less than \$25,000, does EPA intend to provide any guidance or address any recommended practices for procurement of designated

any recommended practices for procurement of designated items? They also ask how would EPA evaluate these bids and which offeror would receive the award? The researcher attempts to evaluate this example with the following argument.

Offeror #6 would get the award since it meets the minimum standards even though it does not have the lowest price. Offerors # 1, 2, 3, and 5 only meet one of the two minimum content level standards. Offerors # 4 and 7 do not meet either minimum content level and could be considered non-responsive.

If agencies are setting their own minimum content level standards, which is what the EPA is proposing to happen, then the outcome of the example could have been different. If an agency decides to relax the standards on the post consumer percentage and tightened the standards on the recovered percentage in this example, then offeror #2 could have won. If selected, more money would have been paid for the product in that case.

Paying more for the item might be the right choice if there is an acceptable tradeoff in content standards. Offeror #2 provides less post consumer material but more recovered material in its product. The requirement of the APP pursuant to EO-12873 is that agencies maximize environmental benefits, consistent with price, performance, and availability considerations, and shall adjust bid solicitation guidelines as necessary in order to accomplish this goal. [Ref. 1]

B. SUMMARY

This chapter answered the primary research question. It identified five major areas of challenge facing Navy contracting agencies attempting to implement an APP pursuant with EO-12873. These challenges are:

1. Compliance by its field contracting agencies to procure environmentally preferable products and services (i.e. "Green Acquisition.")
2. Compliance by its field contracting agencies to incorporate environmental life-cycle cost into the acquisition process of recycled products.
3. Getting contractors to comply with the minimum standards for recovered materials designated by EPA.
4. Attempting to reduce the burden in time and money of complying with the reporting requirements of an APP pursuant with EO-12873.
5. Having its agencies avoid inconsistent application of minimum content standards for recycled products when procuring these environmentally preferable products.

The Navy is addressing these challenges in various ways. First, they are attempting to change the way their contracting agencies do business by making procurement of environmentally preferable products and services the norm. Second, they are currently working on an environmental life-cycle cost model to be applied to purchasing recycled products. Third, they are using certifications to ensure contractor compliance with EPA minimum standards. Fourth, they are also encouraging as many contractors as possible to adopt the ISO 9000 management system so that some of the burden of compliance can be shared. Fifth, the Navy is attempting to implement an electronic commerce system by January of 1998 [Ref. 4]. This system will help eliminate unnecessary paper work, allow faster and more accurate data collection and reporting, and put DoN in compliance with EO-12873. Finally, they have submitted their comments on the

EPA's proposed rule and notice and await the final outcome. [Ref. 28] The Navy has done a lot to implement an APP pursuant to EO-12873. Because of the size of the agency, there is still much work to be done.

The final section of this chapter draws conclusions based on the responses from the questionnaire and makes recommendations on how Navy contracting agencies can improve their implementation of the APP. Then it concludes by providing suggestions for further research related to the implementation of the APP.

C. CONCLUSIONS AND RECOMMENDATIONS

1. Implementation of an APP by Navy contracting agencies will be challenging but not impossible

Chapter three discussed this issue. A comparison with the challenges the USDA and EPA show that there are some similarities. USDA is concerned with cost increases just as the Navy is. USDA also expressed a concern with the large number of agencies it has to implement in its APP, just as the Navy did. Finally, training, funding and manpower were commonly shared challenges among the three agencies. The recommendation is that Navy contracting agencies ensure that the SECDEF's Comprehensive Pollution Prevention Strategy be promulgated to the lowest possible level within the agencies. [Ref. 4] This helps to shape the vision needed to lead Navy contracting agencies through the complex changes of implementing an APP. It ensures that all the agencies are working from the same policy guidelines and gives the agencies a method to track the progress of their implementation efforts.

2. Electronic commerce will be essential to fully implement an adequate APP

The number of Navy contracting agencies (over 900), and the fact that they are decentralized, presents the potential for increases in inconsistent application of minimum content

standards. Electronic commerce will aide Navy contracting agencies by eliminating unnecessary paper work and making data collection and transfer faster and more accurate. The recommendation is that Navy contracting agencies continue to pursue the implementation of an electronic commerce system as outlined in the Comprehensive Pollution Prevention Strategy, which calls for implementation of an electronic commerce system by January 1998.

3. Staff support is required for the AEE in order for them to adequately perform their duties and responsibilities

The Agency Environmental Executive (AEE) needs staff support in the same way that the Federal Environmental Executive does. The responsibilities of the AEE were discussed in chapter two. Although EO-12873 does not specify that the AEE shall have staff support, it became evident from the responses from the agencies that staff support for the AEE is beneficial. The recommendation is that Navy contracting agencies imitate the example used by EPA to the maximum extent possible, but on a larger scale. The size of the EPA relative to the Navy has been considered in this recommendation and is determined not to be a significant factor. This thesis is not suggesting that all Navy contracting agencies need staff support for the AEE. Rather, it suggests selective staffing by those larger agencies as may be required.

4. Mutual cooperation between Navy contracting agencies and their contractors is needed to ensure compliance with minimum content standards required by the APP

Military specifications and standards have served the Federal Government well. The DoN knows that prudent contractors will deliver what the specifications call for. Otherwise, they won't get very much business in the future. Additionally, most contractors do take pride in the work they do because their reputations mean a lot to them. There

is tremendous benefit to the DoN to have contractor compliance through self-certification.

Recall that the burden is on the Government to do the audits and inspections when the contractors cannot. As the list of designated guideline items grows, the burden on the Government will increase. Therefore, it behooves the Government to get as many contractors self-certified as possible so that the burden of ensuring compliance can be equally shared by both the government and the contractor. shifted.

The recommendation here is that Navy contraction agencies encourage contractors to adopt the ISO 9000 management system. ISO 9000 is a management system that demands the commitment from a contractor to provide goods or services that conform to the requirements of the customer. The standard requires that the materials used in the company's products and services conform to requirements and that the company's processes be defined, documented, and subject to review and approval. [Ref. 29]

5. Due to acquisition reform efforts, the future trend for Navy contracting agencies will involve using an APP to procure recycled products

First, more and more of the products that we use in our daily routine are recycled. Both the Federal Government and the general public have become environmentally conscience and sensitive to the way we manage our natural resources. Second, buying recycled products makes good business sense because it conserves our natural resources and prevents waste. Finally, buying recycled products with an APP puts the Federal Government in the spot light. The Federal Government wants to take a proactive role in increasing markets for recycled products. The recommendation is that Navy contracting agencies fully incorporate acquisition reform efforts into the implementation of the APP. Also, Navy contracting agencies should develop interagency awards

programs for innovative procurement of recycled products. This will help to motivate compliance with the APP.

D. AREAS FOR FURTHER RESEARCH

Executive Order 12873 is applicable to all Federal agencies. This research examined Affirmative Procurement Programs as they apply to Navy contracting agencies. This research revealed that even within the Department of the Navy, further research may prove useful in the following areas:

1. Develop a environmental life-cycle cost estimating model for recycled products for the Department of the Navy.
2. Conduct a cost-benefit analysis of how much it cost the Navy to implement an Affirmative Procurement Program in accordance with RCRA and other applicable statutory regulations.
3. Conduct statistical analysis on how EPA determines what items will be considered for the designated items list.

Additional research into each of these areas provides DoN with valuable information to assist in the ongoing effort to implement an APP.

APPENDIX A (LIST OF ACRONYMS)

AEE	Agency Environmental Executive
APAT	Affirmative Procurement Action Team
APP	Affirmative Procurement Program
ASN(I&E)	Assistant Secretary of the Navy, Installation and Environment
ASN(RD&A)	Assistant Secretary of the Navy, Research, Development and Acquisition
CAAC	Civilian Agency Acquisition Council
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFRPP	Council of Federal Recycling and Procurement Policy
CNO	Chief of Naval Operations
CPG	Comprehensive Procurement Guideline
CWA	Clean Water Act
DARC	Defense Acquisition Regulatory Council
DoD	Department of Defense
DoN	Department of the Navy
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Energy Planning and Community Right-to- Know Act
ERDDA	Environmental Research, Development, and Demonstration Authorization Act
FAR	Federal Acquisition Regulation
FARC	Federal Acquisition Regulatory Council
FEE	Federal Environmental Executive
FRC	Federal Recycling Coordinator
GSA	General Services Administration
IFB	Invitation for Bid
NEPA	National Environmental Policy Act
NPR	National Performance Review

ODA	Ocean Dumping Act
ODS	Ozone Depleting Substances
OFPP	Office of Federal Procurement Policy
OMB	Office of Management and Budget
RCRA	Resource Conservation and Recovery Act
RMAN	Recovered Material Advisory Notice
SECDEF	Secretary of Defense
TSCA	Toxic Substances Control Act
USDA	Department of Agriculture
USD (A&T)	Under Secretary of Defense, Acquisition and Technology
WHOEP	White House Office on Environmental

APPENDIX B (EXECUTIVE ORDER 12873)

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

October 20, 1993

EXECUTIVE ORDER

FEDERAL ACQUISITION, RECYCLE, AND WASTE PREVENTION

WHEREAS, the Nation's interest is served when the Federal Government can make more efficient use of natural resources by maximizing recycling and preventing waste wherever possible;

WHEREAS, this Administration is determined to strengthen the role of the Federal Government as an enlightened, environmentally conscious and concerned consumer;

WHEREAS, the Federal Government should -- through cost-effective waste prevention and recycling activities -- work to conserve disposal capacity, and serve as a model in this regard for private and other public institutions; and

WHEREAS, the use of recycled and environmentally preferable products and services by the Federal Government can spur private sector development of new technologies and use of such products, thereby creating business and employment opportunities and enhancing regional and local economies and the national economy;

NOW, THEREFOR, I WILLIAM J. CLINTON, by the authority vested in me as President by the Constitution and the laws of the United States of America, including the Solid Waste Disposal Act, Public Law 89-272, 79 Stat. 997, as amended by the Resource Conservation and Recovery Act ("RCRA"), Public Law 94-580, 90 Stat. 2795 as amended (42 U.S.C. 6901-6907), and section 301 of title 3, United States Code, hereby order as follows:

PART 1 - PREAMBLE

Section 101. Consistent with the demands of efficiency and cost effectiveness, the head of each Executive agency shall incorporate waste prevention and recycling in the agency's daily operations and work to increase and expand markets for recovered materials through greater Federal Government preference and demand for such products.

Sec. 102. Consistent with policies established by Office of Federal Procurement Policy ("OFFP") Policy Letter 92-4, agencies shall comply with executive branch policies for the acquisition and use of environmentally preferable products and services and implement cost-effective procurement preference programs favoring the purchase of these products and services.

Sec. 103. This order creates a Federal Environmental Executive and establishes high-level Environmental Executive positions within each agency to be responsible for expediting the implementation of this order and statutes that pertain to this order.

PART 2 - DEFINITIONS

For purpose of this order:

Sec. 201. "Environmentally preferable" means products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

Sec. 202. "Executive agency" or "agency" means an Executive agency as defined in 5 U.S.C. 105. For the purpose of this order, military departments, as defined in 5 U.S.C. 102, are covered under the auspices of the Department of Defense.

Sec. 203. "Postconsumer material" means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. "Postconsumer material" is a part of the broader category of "recovered material".

Sec. 204. "Acquisition" means the acquiring by contract with appropriate funds for supplies or services (including construction) by and for the use of the Federal Government

through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated and evaluated. Acquisition begins at the point when agency requirements to satisfy agency needs solicitation and selection of sources, award of contracts, contract financing, contract performance, contract administration and those technical and fulfilling agency needs by contract.

Sec. 205. "Recovered materials" means waste materials and by-products which have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process (42 U.S.C. 6903 (19)).

Sec. 206. "Recyclability" means the ability of a product or material to be recovered from, or otherwise diverted from, the solid waste stream for the purpose of recycling.

Sec. 207. "Recycling" means the series of activities, including collection, separation, and processing, by which products or other materials are recovered from the solid waste stream for use in the form of raw materials in the manufacture of new products other than fuel for producing heat or power by combustion.

Sec. 208. "Waste prevention," also known as "source reduction," means any change in the design, manufacturing, purchase or use of materials or products (including packaging) to reduce their amount or toxicity before they become municipal solid waste. Waste prevention also refers to the reuse of products or materials.

Sec. 209. "Waste reduction" means preventing or decreasing the amount of waste being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products.

Sec. 210. "Life Cycle Cost" means the amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs and disposal costs discounted over the lifetime of the product.

Sec. 211. "Life Cycle Analysis" means the comprehensive examination of a product's environmental and economic effects throughout its lifetime including new material extraction, transpiration, manufacturing, use, and disposal.

PART 3 - THE ROLE OF THE FEDERAL ENVIRONMENTAL

EXECUTIVE AND AGENCY ENVIRONMENTAL EXECUTIVES

Sec. 301. Federal Environmental Executive. (A) A Federal Environmental Executive shall be designated by the President and shall be located within the Environmental Protection Agency (EPA"). The Federal Environmental Executive shall take all actions necessary to ensure that the agencies comply with the requirements of this order and shall generate an annual report to the Office of Management and Budget ("OMB"), at the time of agency budget submissions, on the actions taken by the agencies to comply with the requirements of this order. In carrying out his or her functions, the Federal Environmental Executive shall consult with the Director of the White House Office on Environmental Policy.

(b) Staffing. A minimum of four (4) full time staff persons are to be provided by the agencies listed below to assist the Federal Environmental Executive, one of whom shall have experience in specification review and program requirements, one of whom shall have experience in procurement practices, and one of whom shall have experience in solid waste prevention and recycling. These four staff persons shall be appointed and replaced as follows:

(1) a representative from the Department of Defense shall be detailed for not less than one year and no more than two years;

(2) a representative from the General Services Administration ("GSA") shall be detailed for not less than one year and no more than two years;

(3) a representative from EPA shall be detailed for not less than one year and no more than two years; and

(4) a representative from one other agency determined by the Federal Environmental Executive shall be detailed on a rotational basis for not more than one year.

(c) Administration. Agencies are requested to make their services, personnel and facilities available to the Federal Environmental Executive to the maximum extent practicable for the performance of functions under this order.

(d) Committees and Work Groups. The Federal Environmental Executive shall establish committees and work groups to identify, assess, and recommend actions to be taken to fulfill the goals, responsibilities, and initiatives of the Federal Environmental Executive. As

these committees and work groups are created, agencies are requested to designate appropriate personnel in the areas of procurement and acquisition, standards and specifications, electronic commerce, facilities management, waste prevention, and recycling, and others as needed to staff and work on the initiatives of the Executive.

(e) Duties. The Federal Environmental Executive, in consultation with the Agency Environmental Executives, shall:

(1) identify and recommend initiatives for government-wide implementation that will promote the purposes of this order, including:

(A) the development of a federal plan for agency implementation of this order and appropriate incentives to encourage the acquisition of recycled and environmentally preferable products by the Federal Government;

(B) the development of a federal implementation plan and guidance for instituting economically efficient federal waste prevention, energy and water efficiency programs, and recycling programs within each agency;

(C) the development of a plan for making maximum use of available funding assistance programs;

(2) collect and disseminate information electronically concerning methods to reduce waste, materials that can be recycled, costs and savings associated with waste prevention and recycling, and current market sources of products that are environmentally preferable or produced with recovered materials;

(3) provide guidance and assistance to the agencies in setting up and reporting on agency programs and monitoring their effectiveness; and

(4) coordinate appropriate government-wide education and training programs for agencies.

Sec. 302. Agency Environmental Executives. Within 90 days after the effective date of this order, the head of each Executive department and major procuring agency shall designate an Agency Environmental Executive from among his or her staff, who serves at a level no lower than at a level no lower than at the Deputy Assistant Secretary level or equivalent. The Agency Environmental Executive will be

responsible for;

(a) coordinating all environmental programs in the areas of procurement and acquisition, standards and specification review, facilities management, waste prevention and recycling, and logistics;

(b) participating in the interagency development of a Federal plan to:

(1) create an awareness and outreach program for the private sector to facilitate markets for environmentally preferable and recycled products and services, promote new technologies, improve awareness about federal efforts in this area, and expedite agency efforts to procure new products identified under this order;

(2) establish incentives, provide guidance and coordinate appropriate educational programs for agency employees; and

(3) coordinate the development of standard agency reports required by this order;

(c) reviewing agency programs and acquisitions to ensure compliance with this order.

PART 4 - ACQUISITION PLANNING AND AFFIRMATIVE PROCUREMENT PROGRAMS

Sec. 401. Acquisition Planning. In developing plans, drawings, work statements, specifications, or other product descriptions, agencies shall consider the following factors: elimination of virgin material requirements; use or recovered materials; reuse of product; life cycle cost; recyclability; use of environmentally preferable products' waste prevention (including toxicity reduction or elimination); and ultimate disposal, as appropriate. These factors should be considered in acquisition planning for all procurements and in the evaluation and award of contracts, as appropriate. Program and acquisition managers should take an active role in these activities.

Sec. 402. Affirmative Procurement Programs. The head of each Executive agency shall develop and implement affirmative procurement programs in accordance with RCRA section 6002 (42 U.S.C. 6962) and this order. Agencies shall ensure that of affirmative procurement programs are shared between the program personnel and procurement personnel. For the purposes of all purchases made pursuant

to this order, EPA, in consultation with such other Federal agencies as appropriate, shall endeavor to maximize environmental benefits, consistent with price, performance and availability considerations, and shall adjust bid solicitation guidelines as necessary in order to accomplish this goal.

(a) Agencies shall establish affirmative procurement programs for all designated EPA guideline items purchased by their agency. For newly designated items, agencies shall revise their internal programs within one year from the date EPA designated the new item.

(b) For the currently designated EPA guideline items which are: (i) concrete and cement containing fly ash; (ii) recycled paper products; (iii) re-refined lubricating oil; (iv) retread tires; and (v) insulation containing recovered materials, and for all future guideline items, agencies shall ensure that their affirmative procurement programs require that 100 percent of their purchases of products meet or exceed the EPA guideline standards unless written justification is provided that a product is not available competitively within a reasonable time frame, does not meet appropriate performance standards, or is only available at an unreasonable price.

(c) The Agency Environmental Executives will track agencies' purchases of designated EPA guideline items and report agencies' purchases of such guideline items to the Federal Environmental Executive. Agency Environmental Executives will be required to justify to the Federal Environmental Executive as to why the item(s) have not been purchased or submit a plan for how the agencies intend to increase their purchases of the designated item(s).

(d) Agency affirmative procurement programs, to the maximum extent practicable, shall encourage that:

- (1) documents be transferred electronically,
- (2) all government documents printed internally be printed double-sided, and
- (3) contracts, grants, and cooperative agreements issued after the effective date of this order include provisions that require documents to be printed double-sided on recycled paper meeting or exceeding the standards established in this order or in future EPA guidelines.

Sec. 403. Procurement of Existing Guideline Items.
Within 90 days after the effective date of this order, the

head of each Executive agency that has not implemented an affirmative procurement program shall ensure that the affirmative procurement program has been established and is being implemented to the maximum extent practicable.

Sec. 404. Electronic Acquisition System. To reduce waste by eliminating unnecessary paper transactions in the acquisition process and to foster accurate data collection and reporting of agencies' purchases of recycled content and environmentally preferred products, the executive branch will implement an electronic commerce system consistent with the recommendations adopted as a result of the National Performance Review.

PART 5 - STANDARDS, SPECIFICATIONS AND DESIGNATION OF ITEMS

Sec. 501. Specification, Products Descriptions and Standards. Where applicable, Executive agencies shall review descriptions and standard to enhance Federal procurement of products made from recovered materials or that are environmentally preferable. When converting to a Commercial Item Description (CID), agencies shall ensure that environmental factors have been considered and that the CID meets or exceeds specification or product description. Agencies shall report annually on their compliance with this section to the Federal Environmental Executive for incorporation into the annual report to OMB referred to in section 301 of this order.

(a) If an inconsistency with RCRA Section 6002 or this order is identified in a specification, standard, or product description, the Federal Environmental Executive shall request that the Environmental Executive of the pertinent agency advise the Federal Environmental Executive as to why the specification cannot be revised or submit a plan for revising it within 60 days.

(b) If an agency is able to revise an inconsistent specification but cannot do so within 60 days, it is the responsibility of that agency's Environmental Executive to monitor and implement the plan for revising it.

Sec. 502. Designation of Items that Contain Recovered Materials. In order to expedite the process of designating items that are or can be made with recovered materials, EPA shall institute a new process for designating these items in accordance with RCRA section 6002(e) as follows. (a) EPA shall issue a Comprehensive Procurement Guideline containing designated items that are or can be made with recovered

materials.

(1) The proposed guideline shall be published for public comment in the Federal Register within 180 days after the effective date of this order and shall be updated annually after publication for comment to include additional items.

(2) Once items containing recovered materials have been designated by EPA through the new process established pursuant to this section and in compliance with RCRA section 6002, agencies shall modify their affirmative procurement programs to require that, to the maximum extent practicable, their purchases of products meet or exceed the EPA guideline standards unless written justification is provided that a product is not available competitively, not available within a reasonable time frame, does not meet appropriate performance standards, or is only available at an unreasonable price.

(b) Concurrent with the issuance of the Comprehensive Procurement Guideline required by section 502(a) of this order EPA shall publish for public comment in the Federal Register Recovered Material Advisory Notice(s) that present the range of recovered material content levels within which the designated recycled items are currently available. These levels shall be updated periodically after publication for comment to reflect changes in market conditions.

Sec. 503. Guidance for Environmentally Preferable Products. In accordance with this order, EPA shall issue guidance that recommends principles that Executive agencies should use in making determinations for the preference and purchase of environmentally preferable products.

(a) Proposed guidance shall be published for public comment in the Federal Register within 180 days after the effective date of this order, and may be updated after public comment, as necessary, thereafter. To the extent necessary EPA may issue additional guidance for public comment on how the principles can be applied to specific product categories.

(b) Once final guidance for environmentally preferable products has been issued by EPA, Executive agencies shall use these principles, to maximum extent practicable, in identifying and purchasing environmentally preferable products and shall modify their procurement programs by reviewing and revising specifications, solicitation procedures, and policies as appropriate.

Sec. 504. Minimum Content Standard For Printing and Writing Paper. Executive agency heads shall ensure that agencies shall meet or exceed the following minimum materials content standards when purchasing or causing the purchase of printing and writing paper:

(a) For high speed copier paper, office paper, forms bond, computer printout paper, carbonless paper, file folders, and with woven envelopes, the minimum content standard shall be no less than 20 percent postconsumer materials beginning December 31, 1994. This minimum content standard shall be increased to 30 percent beginning on December 31, 1998.

(b) For other uncoated printing and writing paper, such as writing and office paper, book paper, cotton fiber paper, and cover stock, the minimum content standard shall be 50 percent recovered materials, including 20 percent postconsumer materials beginning on December 31, 1994. This standard shall be increased to 30 percent on December 1998.

(c) As an alternative to meeting the standards in section 504(b), for all printing and writing papers, the minimum content standard shall be no less than 50 percent recovered materials that are a waste material byproduct of a finished product other than a paper or textile product which would otherwise be disposed of in a landfill, as determined by the State in which the facility is located.

(1) The decision not to procure recycled content printing and writing paper meeting the standards specified in this section shall be based solely on a determination by the contracting officer that a satisfactory level of competition does not exist, that the items are not available within a reasonable time period, or that the available items fail to meet reasonable performance standards established by the agency or are only available at an unreasonable price.

(2) Each agency should implement waste prevention techniques, as specified in section 402(d) of this order, so that total annual expenditures for recycled content printing and writing paper do not exceed current annual budgets for paper products as measured by average annual expenditures, adjusted for inflation based on the Consumer Price Index or other suitable indices. In determining a target budget for printing and writing paper, agencies may take into account such factors as employee increases or decreases, new agency or statutory initiatives, and episodic or unique requirements (e.g., census).

(3) Effective immediately, all agencies making

solicitations for the purchase of printing and writing paper shall seek bids for paper with postconsumer material or recovered waste material as described in section 504(c).

Sec. 505. Revision of Brightness Specifications and Standards. The General Services Administration and other Federal agencies are directed to identify, evaluate and revise or eliminate any standards or specifications unrelated to performance that present barriers to the purchase of paper or paper products made by production processes that minimize emissions of harmful byproducts. This evaluation shall include a review of unnecessary brightness and stock clause provisions, such as lignin content and chemical pulp requirements. The GSA shall complete the review and revision of such specifications within six months after the effective date of this order, and shall consult closely with Joint Committee on Printing during such process. The GSA shall also compile any information or market studies that may be necessary to accomplish the objectives of this provision.

Sec. 506. Procurement of Re-refined Lubricating Oil and Retread Tires. Within 180 days after the effective date of this order, agencies shall implement the EPA procurement guidelines for re-refined lubricating oil and retread tires.

(a) Commodity managers shall finalize revisions to specifications for re-refined oil and retread tires, and develop and issue specifications for tire retreading services, as commodity managers shall take affirmative steps to procure these items in accordance with RCRA section 6002.

(b) Once these items become available, fleet managers shall take affirmative steps to procure these items in accordance with RCRA section 6002.

Sec. 507. Product Testing. The Secretary of Commerce, through the National Institute of Standards and Technology ("NIST"), shall establish a program for testing the performance of products containing recovered materials or deemed to be environmentally preferable. NIST shall work with EPA, GSA and other public and private sector organizations that conduct appropriate life cycle analyses to gather information that will assist agencies in making selections of products and services that are environmentally preferable.

(A) NIST shall publish appropriate reports describing testing programs, their results, and recommendations for testing methods and related specification for use by Executive agencies and other interested parties.

(B) NIST shall coordinate with other Executive and State agencies to avoid duplication with existing testing programs.

PART 6 - AGENCY GOALS AND REPORTING REQUIREMENTS

Sec. 601. Goals for Waste Reduction. Each agency shall establish a goal for solid waste prevention and a goal for recycling to be achieved by the year 1995. These goals shall be submitted to the Federal Environmental Executive within 180 days after the effective date of this order. Progress on attaining these goals shall be reported by the agencies to the Federal Environmental Executive for the annual report specified in section 301 of this order.

Sec. 602. Goal for Increasing the Procurement of Recycled and Other Environmentally Preferable Products. Agencies shall strive to increase the procurement of products that are environmentally preferable or that are made with recovered materials and set annual goals to maximize the number of recycled products purchased, relative to non-recycled alternatives.

Sec. 603. Review of Implementation. The President's Council on Integrity and Efficiency ("PCIE") will request that the Inspectors General periodically review agencies' affirmative procurement programs and reporting procedures to ensure their compliance with this order.

PART 7 - APPLICABILITY AND OTHER REQUIREMENTS

Sec. 701. Contractor Operated Facilities. Contracts that provide for contractor operation of a government-owned or leased facility, awarded after the effective date of this order, shall include provisions that obligate the contractor to comply with the requirements of this order within the scope of its operations. In addition, to the extent permitted by law and where economically feasible, existing contracts should be modified.

Sec. 702. Real Property Acquisition and Management. Within 90 days after the effective date of this order, and to the extent permitted by law and where economically feasible, Executive agencies shall ensure compliance with the provisions of this order in the acquisition and management of federally owned and leased space. GSA and other Executive agencies shall also include environmental and recycling provisions in the acquisition of all leased space and in the construction of new federal buildings.

Sec. 703. Retention of Funds. Within 90 days after the effective date of this order, the Administrator of GSA shall develop a legislative proposal providing authority for Executive agencies to retain a share of the proceeds from the sale of materials recovered through recycling or waste prevention programs and specifying the eligibility requirements for the materials being recycled.

Sec. 704. Model Facility Programs. Each Executive department and major procuring agency shall establish model facility demonstration programs that include comprehensive waste prevention and recycling programs and emphasize the procurement of recycled and environmentally preferable products and services using an electronic data interchange (EDI) system.

Sec. 705. Recycling Programs. Each Executive agency that has not already done so shall initiate a program to promote cost effective waste prevention and recycling of reusable materials in all of its facilities. The recycling programs implemented pursuant to this section must be compatible with applicable State and local recycling requirements. Federal agencies shall also consider cooperative ventures with State and local governments to promote recycling and waste reduction in the community.

PART 8 - AWARENESS

Sec. 801. Agency Awards Program. A government-wide award will be presented annually by the White House to the best, most innovative program implementing the objectives of this order give greater visibility to these efforts so that they can be incorporated government-wide.

Sec. 802. Internal Agency Awards Programs. Each agency shall develop an internal agency-wide awards program, as appropriate to reward its most innovative environmental programs. Winners of agency-wide awards will be eligible for the White House award program.

PART 9 - REVOCATION, LIMITATION AND IMPLEMENTATION

Sec. 901. Executive Order No. 12780, dated October 31, 1991, is hereby revoked.

Sec. 902. This order is intended only to improve the

internal management of the executive branch and is not intended to create any right or benefit, substantive or procedural enforceable at law by a party against the United States, its agencies, its officers, or any other person.

Sec. 903. The policies expressed in this order, including the requirements and elements for effective agency affirmative procurement programs, shall be implemented and incorporated in the Federal Acquisition Regulation (FAR) within 180 days after the effective date of their order. The implementation language shall consist of providing specific direction and guidance on agency programs for preference, promotion, estimation, certification, reviewing and monitoring.

Sec. 904. This order shall be effective immediately.

WILLIAM J. CLINTON

THE WHITE HOUSE,
October 20, 1993.

APPENDIX C (QUESTIONNAIRE)

From: Lieutenant Commander, Curtis L. Fields, SC, USN
To:

Subj: SOLICITATION FOR FEEDBACK ON THE AFFIRMATIVE
PROCUREMENT PROGRAM CALLED FOR IN EXECUTIVE ORDER
12873

Encl: (1) Copy of Executive Order 12873
(2) Questionnaire

1. In October 1993, President Clinton signed Executive Order 12873 entitled *Federal Acquisition, Recycling and Waste Prevention*. It calls for procuring agencies to implement an Affirmative Procurement Program for certain items designated by the Environmental Protection Agency.
2. In an attempt to be proactive in complying with the new requirements imposed by the Order and to assist the researcher in collecting thesis data, your feedback is requested.
3. Executive Order 12873 is provided as enclosure (1). Please complete enclosure (2) and fax your response to (408) 394-6863 or (408) 622-8802. Attention LCDR Curtis Fields.
4. Thank you for your cooperation and assistance. POC on this questionnaire is LCDR Curtis Fields (DSN) 878-2536 ext. 1118 or (COMM) 408 656-xxxx.

Very respectfully,

Curtis Fields, LCDR, SC, USN

AFFIRMATIVE PROCUREMENT PROGRAM QUESTIONNAIRE

Purpose: Your response to this questionnaire will be used to identify challenges facing Federal Executive Branches and Navy Contracting Agencies in implementing Affirmative Procurement Programs in accordance with Executive Order 12873.

NAME: Mr./Ms. _____
POSITION/TITLE: _____
ACTIVITY NAME: _____
ADDRESS: _____ (AV)
PHONE: _____ (COMM) PHONE: _____
FAX: _____

At this point, please stop to read Executive Order 12873 if you are unfamiliar with its contents.

PERCEPTIONS

1. What is your perception of the general intent of Executive Order 12873?

2. Please explain the challenges you expect to encounter or which you encountered as you implemented the Affirmative Procurement Program?

3. In your opinion, is there really a need to have an Affirmative Procurement Program?

ABILITY TO COMPLY

1. As your contracting agency is currently structured, could you fully comply with the Affirmative Procurement Program requirements of Executive Order 12873?
___Yes ___No (go to question #2)
2. In what time frame do you expect to be in compliance?

3. Who is your Agency Environmental Executive? _____

ACTIONS WHICH WOULD FACILITATE COMPLIANCE

1. What are some of the major problems facing Agency Environmental Executives in their efforts to implement Affirmative Procurement Programs?
(check one or more)
Training_____
Funding_____
Manpower_____
Other_____
2. Based on your response to question #1, what action will/did your agency take to address these problems?

ENVIRONMENTAL AWARENESS

1. Does your agency currently have its own set of guidelines for the procurement of environmentally preferable products?
___Yes ___No

If you answered "yes," please consider sending a copy of the policy back with this questionnaire.

2. How successful has the Agency Environmental Executive been in creating an awareness and outreach program for both the private sector and its own employees?

3. What incentives does your agency use to motivate compliance with the Affirmative Procurement Program?

4. Has your agency submitted the annual report required by the Executive Order?
___Yes ___NO

If you answered "yes," please consider sending a copy of the report back with this questionnaire.

5. Does the Agency Environmental Executive have a permanent staff to assist in reviewing agency programs and acquisitions to ensure compliance with the Order?
___Yes ___No

6. Are collateral duties for the Agency Environmental Executive, unique to your agency, not spelled out in the Order?

ANTICIPATED IMPACT

1. What might be the principal impact of the Affirmative Procurement Program to be on the procurement and programs personnel in your agency?

2. Are you familiar with the Environmental Protection Agency (EPA) guideline item list of environmentally preferable products?
☐ Yes ☐ No (go to question #3)

3. Has your agency established an Affirmative Procurement Program for all designated EPA guideline items purchased by your agency?

To expedite the return of this questionnaire, please feel free to fax your responses to: home (408) 394-6863 or work: comm (408) 622-8802. Attn: LCDR Curtis Fields

End of questionnaire.

APPENDIX D (AFFIRMATIVE PROCUREMENT PROGRAM STATUS)

AGENCY	STATUS	SINCE
USDA	Under development. Implementation projected end FY 1994	September 1994
DOC	Under Revision. Implementation projected end of FY 1994	September 1994
DOD	Under development. Implementation projected 1995	Projected 1995
DOE	Implemented	8/20/92
ED	Implemented	1/28/93
EPA	Implemented	5/9/91
GSA	Implemented	4/7/93
HHS	Implemented	4/30/92
HUD	Implemented	2/16/94
Interior	Implemented	3/25/92
DOJ	Implemented	4/9/92
DOL	Under development. Implementation projected end of FY 1994	September 1994
NASA	Implemented	4/30/93
State	Implemented	4/30/92
DOT	Implemented	4/30/92
Treasury	Implemented	4/5/93
VA	Under revision. Implementation projected end of FY 1994	September 1994

Source: "Report to Congress" RCRA: A Report on Agencies' Implementation for Fiscal Years 1992 and 1993, of July 1994.

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